

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

NATIONAL INSTITUTE FOR STRATEGIC
TECHNOLOGY ACQUISITION AND
COMMERCIALIZATION (NISTAC),
Plaintiff

V.

NISSAN NORTH AMERICA, INC.;
NISSAN MOTOR CO. LTD. ;
FUJI HEAVY INDUSTRIES, LTD;
SUBARU OF AMERICA, INC.;
TOYOTA MOTOR SALES, U.S.A. INC.;
TOYOTA MOTOR ENGINEERING &
MANUFACTURING NORTH AMERICA, INC.; and
AMERICAN HONDA MOTOR CO., INC.;

Defendants

§ § § § § § § § § § § § § § § §

CASE NO.: 11-11039
JURY DEMANDED

**PLAINTIFF NATIONAL INSTITUTE FOR STRATEGIC TECHNOLOGY
ACQUISITION AND COMMERCIALIZATION'S OPENING
BRIEF ON CLAIM CONSTRUCTION**

To Plaintiff National Institute for Strategic Technology Acquisition and
Commercialization's Opening Brief on Claim Construction

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

NATIONAL INSTITUTE FOR STRATEGIC	§	
TECHNOLOGY ACQUISITION AND	§	
COMMERCIALIZATION (NISTAC),	§	
<i>Plaintiff</i>	§	
v.	§	CASE NO.: 11-cv-11039-GCS-LJM
	§	Hon. George Caram Steeh
NISSAN NORTH AMERICA, INC., et al	§	Jury Demand
<i>Defendants</i>	§	

PLAINTIFF’S OPENING BRIEF ON CLAIM CONSTRUCTION

I. INTRODUCTION

This is an action for patent infringement brought by Plaintiff, the National Institute for Strategic Technology Acquisition and Commercialization (“NISTAC”) against four groups of automobile manufacturers—Nissan, Honda, Toyota, and Subaru (collectively “Defendants”). This suit involves three patents that disclose inventions involving solid-film lubricants (“SFL”) and the use of SFLs on pistons. The three Patents-in-Suit are U.S. Patent No. 5,482,637 (**Exhibit A**, “the ’637 Patent”); U.S. Patent No. 5,313,919 (**Exhibit B**, “the ’919 Patent”); and U.S. Patent No. 5,239,955 (**Exhibit C**, “the ’955 Patent”). As discussed at the recent technology tutorial, the ’637 Patent is titled, “Anti-friction coating composition containing solid lubricant” and covers a low-friction solid-film lubricant coating. The ’919 and ’955 Patents are related patents because the ’919 Patent is a division of the ’955 Patent. As related patents, the ’919 and ’955 Patents share the same specification and both are titled “Low friction reciprocating piston assembly.” They cover a piston assembly with an SFL coating, as well as a method for making such a piston. NISTAC contends that Defendants make, use, sell, or offer for sale pistons with SFL coatings that infringe one or more of the Patents-in-Suit.

NISTAC files this brief to assist the Court in resolving the legal issues surrounding the construction of the disputed claim terms in the Patents-in-Suit. The parties have filed a Joint Claim Construction Chart consistent with this Court's Order in which the agreed and disputed terms are identified. A copy of the Joint Claim Construction Chart (Dkt. No. 65-1) is attached as **Exhibit D**. Since filing the Joint Claim Construction Chart, the parties have reached an agreement on several additional terms as shown in Supplement To The Parties' Joint Proposed Claim Construction Chart **Exhibit E**. Defendants have also informed NISTAC that they do not intend to seek construction of the following terms: "side walls being relieved on the exterior side thereof," "gap between," "promote transfer of said solid film lubricant coating to the cylinder bore wall," "reduced area of said lands," "said lands surround at least the periphery of said skirt," and "undercutting". Accordingly, NISTAC will not present claim construction arguments on these withdrawn terms.

II. GENERAL RULES OF CLAIM CONSTRUCTION

A. Patent Claim Terms Should be Construed According to Their Ordinary Meaning to a Person of Ordinary Skill in the Art, Unless Clearly Defined or Disavowed to the Contrary

A patent "claim" is any one of the numbered sentences in the final section of the patent document. By these claims, the patent defines the metes and bounds of the invention. A claim may stand alone as an independent claim, or it may reference a prior claim and be considered a dependent claim. 35 U.S.C. § 112.

Deciding the meaning and scope of a patent claim is a question of law solely for the Court. *Markman v. Westview Instr., Inc.*, 517 U.S. 370, 384-86 (1996). In deciding the meaning of claim terms, "[t]he words of a claim are generally given their ordinary and customary meaning." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005)(*en banc*, citation

omitted); *Conoco, Inc. v. Energy & Envtl. Int'l, L.C.*, 460 F.3d 1349, 1357 (Fed. Cir. 2006). The ordinary and customary meaning “is the meaning that the term would have to person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1312; *Conoco*, 460 F.3d at 1357. However, the ordinary and customary meaning is not divorced from the patent, but rather is based on how the term is used in the claims and in the entire patent. *Phillips*, 415 F.3d at 1313. Thus, “the context in which a term is used in the asserted claim can be highly instructive.” *Id.* at 1314; *see also ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) (“the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms”).

In addition to consulting the claims and the patent specification, the Court should also look at the rest of the intrinsic evidence. *Id.* at 1317. Intrinsic evidence includes the patent specification (i.e., the remaining portions of the patent other than the numbered claims, such as the “Background,” “Summary of the Invention,” and “Detailed Description”), as well as the prosecution history of the patent (i.e., the file wrapper). *Id.* A claim term should be construed to have its “ordinary and customary meaning ... to a person of ordinary skill in the art” unless the claim term has no such meaning to the ordinary artisan or the intrinsic evidence clearly shows that the patentee altered the term. *Conoco*, 460 F.3d at 1357.

Thus, if a term has an ordinary and customary meaning to one of skill in the art, that meaning governs unless the patent and file history clearly establish a different use. *Phillips*, 415 F.3d at 1315; *see also C.R. Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004). In order to establish a different meaning, “the patentee, acting as his or her own lexicographer, [must] clearly set forth an explicit definition of the term different from its ordinary meaning.” *Phillips*, 415 F.3d at 1319. The inventor may also establish a different

meaning “by using words or expressions of manifest exclusion or restriction, representing *a clear disavowal* of claim scope.” *Id.* (emphasis added). Such disavowal of the ordinary meaning may be express or implied, but it must be clear. *Id.* at 1321. Thus, where, consistent with the prosecution history, a patentee uses a claim term throughout the specification in a manner that allows for only a single meaning, “a claim term may be clearly redefined without an explicit statement of redefinition.” *Id.* (quoting *Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001)). An implied definition or disavowal is not established, however, by mere use in a patent specification of an otherwise broader term to refer to a particular embodiment or species disclosed by the specification. *Id.* at 1323.

Accordingly, the ordinary meaning of the term defines the scope of the claim, “unless the patentee has explicitly disclaimed or clearly disavowed this meaning in the specification or prosecution history.” *Housey Pharm. v. Astrazeneca UK Ltd.*, 366 F.3d 1348, 1352 (Fed. Cir. 2004); *see Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1374 (Fed. Cir. 2005). Any other rule would be contrary to the Federal Circuit’s en banc holding in *Phillips*, under which claims are to be construed as they would be by the ordinary artisan and the ordinary meaning lexicon with which the artisan comes to the patent documents. 415 F.3d at 1312-13, 1319; *Conoco*, 460 F.3d at 1357. This is the foundational principle for the Court to apply in construing the claims of the patents-in-suit.

B. The Patent Specification Is Usually Dispositive

The claims of a patent do not stand alone. They are part of “a fully integrated written instrument,” *Markman*, 52 F.3d at 978, consisting principally of a specification and concluding with the claims. Thus, claims “must be read in view of the specification, of which they are a part.” *Id.* at 979. For that reason, the specification—the section of the patent prior to the

claims—is given substantial and usually dispositive weight. *Phillips*, 415 F.3d at 1315. Of course, in reviewing the patent specification, the “entire patent” must be read from the perspective of a “person of ordinary skill in the art.” *Conoco*, 460 F.3d at 1357 (internal quotations omitted, emphasis added).

C. One Must be Careful to Avoid Reading Limitations From The Specification Into the Claims

This Court must be vigilant to avoid interpreting terms in a way that imports limitations into the claims, as this would improperly narrow the claims. As noted above, claim terms should be given the full breadth of their ordinary meaning. *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1120 (Fed. Cir. 2004). Thus, when looking to the specification for guidance in construing claim terms, the Court should not read limitations from the specification into the claim terms to redefine phrases and terms that are otherwise understood by those skilled in the art. *Phillips*, 415 F.3d at 1323.

For example, even though a patent might describe very specific embodiments or examples of an invention in the specification, a claim term should not be confined to those specific embodiments. *Id.* The Federal Circuit has “expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.” *Id.* That is because section 112 requires the claims to state the limits of the patent and because one of ordinary skill in the art would not limit their understanding of the patent to those examples. *Id.*; see also *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (“An accused infringer may . . . narrow a claim term’s ordinary meaning, but he cannot do so simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history.”).

Thus, even when a patent describes only a single embodiment, the claims will not be restricted to that example, “unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Innova/Pure Water*, 381 F.3d at 1117.

Thus, as this Court prepares to construe the disputed claim terms of the patents-in-suit: (i) absent a definition in the patent to the contrary, it is proper to construe a term in accordance with its customary and ordinary meaning to the artisan, even if that meaning may be narrower than the meaning of the term in the English language generally; but (ii) it is improper to narrowly construe a claim term having a broader ordinary meaning to the artisan merely based on its use to refer to embodiments disclosed in the patent specification. *Phillips*, 415 F.3d at 1323; *see also CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

D. Claim Differentiation Helps Define the Claim Terms

In *Phillips*, the Federal Circuit also explained that, when construing claims, the primary focus remains on the claims, both asserted and unasserted. 415 F.3d at 1314. Differences among the claims can also guide the meaning of particular claims. *Id.* For example, the doctrine of claim differentiation creates a rebuttable presumption that each claim in a patent has different scope. *Sunrace Roots Enter., Co. v. SRAM Corp.*, 336 F.3d 1298, 1302-1303 (Fed. Cir. 2003). That presumption “is especially strong when the limitation in dispute is the only meaningful difference between an independent claim and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim.” *Id.* at 1303.

E. Extrinsic Evidence Helps Define the Claims’ Terms

Extrinsic evidence includes all evidence external to the patent and prosecution history, such as expert and inventor testimony, dictionaries and learned treatises. Extrinsic evidence “in

the form of expert testimony can be useful to a court for a variety of purposes, such as . . . to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Still, extrinsic evidence is “less significant [to claim construction than] the intrinsic record,” so the Court should discount expert testimony that is clearly inconsistent with the claim construction mandated by the intrinsic evidence—namely, the other portions of the patent and the prosecution history. *Id.* at 1317-18.

Additionally, although a dictionary definition of a claim term is not dispositive of its meaning in the context of the patent, the dictionary definition may show that the proposed construction of a certain term is consistent with its ordinary and commonly understood meaning to the ordinary artisan. *Phillips*, 415 F.2d at 1314.

In some cases, the ordinary meaning of the claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances, general purpose dictionaries may be helpful.

Id.

A dictionary definition is usually an unbiased source "accessible to the public in advance of litigation." *Id.* at 1322. Courts may rely on dictionary definitions when construing claim terms as long as the definitions do not contradict any definitions found in or ascertained by a reading of the intrinsic evidence. *Id.*

F. Ambiguous Terms Should Be Construed To Render The Claim Valid

Under federal law, patents are presumed valid. 28 U.S.C. § 282. The Federal Circuit has instructed courts that claim terms should be construed to preserve the patent’s validity if possible. Thus, when a court is faced with conflicting claim constructions, one of which would

render the patent invalid, it should adopt the construction that preserves the claim's validity. *Phillips*, 415 F.3d at 1327. Thus, a term should not be construed to render a claim invalid for indefiniteness when an alternative practical construction renders the claim valid. *Id.* A claim term is not indefinite merely because it is difficult to construe; however, when a claim term is irresolvably ambiguous, that term will be fatally indefinite rendering the claim invalid. *Bancorp Services, L.L.C. v. Hartford Life Insurance Co.*, 359 F.3d 1367, 1371 (Fed. Cir. 2004). When, however, there is reasonable doubt about the meaning of a claim term, the Court should construe the term so as to resolve the ambiguity and render the claim valid.

The standard for definiteness of claim terms under 35 U.S.C. § 112, ¶ 2, was eloquently and comprehensively discussed by Federal Circuit Judge Bryson in *Exxon Research & Eng'g Co. v. U.S.*, 265 F.3d 1371, 1375 (Fed. Cir. 2001):

We have stated the standard for assessing whether a patent claim is sufficiently definite to satisfy the statutory requirement as follows: If one skilled in the art would understand the bounds of the claim when read in light of the specification, then the claim satisfies section 112 paragraph 2...

In determining whether that standard is met, i.e., whether “the claims at issue [are] sufficiently precise to permit a potential competitor to determine whether or not he is infringing,” we have not held that a claim is indefinite merely because it poses a difficult issue of claim construction... We have not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, we have held the claim indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds. By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity, and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal. (citations omitted).

If the claim term(s) at issue would be easily understood by one of ordinary skill in the art when read in light of the description and discussion found in the patent specification, then the claim term at issue is definite.

III. CONSTRUCTION OF THE ASSERTED CLAIM TERMS

In keeping with the law of claim construction, NISTAC proposes the following constructions for the disputed claim terms and phrases in the Patents-in-Suit as identified in the parties' Joint Claim Construction Chart (**Exhibit D**)¹. NISTAC offers the following evidence and arguments in support of its proposed constructions.

1. “catalyst” – the '637 Patent (Claims 1, 7, 10, 12, 13, 15)

NISTAC contends that there is no construction needed for the term “catalyst”, as it is used throughout the '637 Patent in its ordinary and common manner. Nothing in the intrinsic evidence suggests that “catalyst” has a meaning other than its common and ordinary meaning. For example, the '637 Patent refers to the use of “a catalyst for setting the resin.” '637 Patent, 4:48. It also refers to the catalyst as being a specific chemical or being heat. '637 Patent 4:66 – 5:4. Nothing about these uses of the term “catalyst” suggests that it should have any special or non-ordinary definition.

The extrinsic evidence demonstrates that “catalyst” has an ordinary and common meaning in the art. For example, the McGraw-Hill Dictionary of Science and Engineering defines “catalyst” as a “substance that alters the velocity of a chemical reaction and may be recovered essentially unaltered to form and amount at the end of the reaction.” McGraw-Hill Dictionary of Science and Engineering at 146 (Sybil P. Parker ed. 1984)(**Exhibit F**). The

¹ As noted above, several terms have been agreed to or withdrawn. *Supra* at 2. NISTAC presents no arguments for those terms.

Condensed Chemical Dictionary defines a “catalyst as “a substance of which a fractional percentage notably affects the rate of a chemical reaction without itself being consumed or undergoing chemical change.” 205-206 (Gessner G. Hawley, 10th ed. 1981)(**Exhibit G**).

In the alternative, NISTAC contends that “catalyst” should be defined as “a substance that stimulates a reaction or a charge.” Such a definition conforms to the specification, the ordinary and common meaning, and the extrinsic evidence of the above-cited dictionaries. And unlike the Defendants’ proposed definition, which improperly imports the additional, absolute limitation of “without being consumed” into the claim term. *See Exhibit D* at 3.

2. “coefficient of 0.04 or less” – the ’637 Patent (Claim 13)

NISTAC contends that the term “coefficient of 0.04 or less” is not definite. All of the intrinsic evidence demonstrates, the only coefficient discussed in the patent is the coefficient of friction. The intrinsic evidence further demonstrates that “coefficient of 0.04 or less” has a well-understood and definite meaning in the art. For example, the patent describes the materials for which the coefficient of friction is being measured—a piston in a cylinder bore—the environment within which the coefficient of friction is being measured—in a high-temperature, oil-bathed environment—and representative values for the coefficient of friction—“the coefficient of friction for graphite at 400° F or lower becomes generally uniform below 0.05.” *See the ’637 Patent* 7:1-11 & Figs. 3, 4, 5, 8, 9, 10, & 12; cols. 2:26-27; 3:39-43; 4:42 & 45-46; 5:42-48; 6:24-31; 7:56-59; 8:51-67; 9:55-65; 10:67 - 11:6. This discussion of the term “coefficient of friction” and the values that it takes in the context of this invention as disclosed in the ’637 Patent is clear evidence that this term has a well-understood ordinary meaning to a person of ordinary skill in the art. It follows that this claim term cannot be indefinite.

The extrinsic evidence further demonstrates that “coefficient of 0.04 or less” is definite because it is well-understood in the art and is not irresolvably ambiguous. *See Bancorp Serv’s*, 359 F.3d at 1371. For example, manufacturers of piston coatings, Dow Corning and Sandstrom, describe the coefficient of friction for their products as low friction and even specify the value of the coefficient of friction for some of their products. *See* Sandstrom Technical Information Guide: Piston Skirt Coating series E720 (**Exhibit H**); Dow Corning Product Information for Molykote 7409 (1995), Molykote D 10 (1996), and Molykote PA-744 (2004)(**Exhibit I**). Within the industry, there are handbooks that describe friction and standardized tests for measuring the coefficient of friction. *See* 18 ASM Handbook at 5 (Peter J. Blau et al. eds. 1992)(**Exhibit J**); ASTM D 2714-88 STANDARD TEST METHOD FOR CALIBRATION AND OPERATION OF THE FALEX BLOCK-ON-RING FRICTION AND WEAR TESTING MACHINE (1988)(**Exhibit K**). Articles within the industry—including articles by one of the inventors of the Patents-in-Suit—discuss and describe the coefficient of friction and various means for measuring it. *See* V. Durga N. Rao, et al., Influence of Surface Characteristics and Oil Viscosity on Friction Behavior of Rubbing Surfaces in Reciprocating Engines, Paper No. 98-ICE-131, at 24-25, 29-30, 32-33, ASME (1998)(**Exhibit L**); V.D. N. Rao et al. Engine Studies of Solid Film Lubricant Coated Pistons, SAE Technical Paper Series 970009, at 71, Table 1 & Fig. 4 (1997)(**Exhibit M**); *see also* Stephen H. Hill, et al. Bench Wear Testing of Common Gasoline Engine Cylinder Bore Surface/Piston Ring Combinations, 39 Tribology Transactions 929 at 934 (1996)(**Exhibit N**). The extrinsic evidence from these sources show that the claim term “coefficient of 0.04 or less” is clearly defined and well known and understood to one of ordinary skill in the art. As such, there is no basis to conclude that this term is indefinite.

3. “coefficient of friction” – the ’637 Patent (Claims 1, 7, 20)

Similar to the above term, NISTAC contends that the term “coefficient of friction” is **definite**. All of the intrinsic evidence demonstrates that “coefficient of friction” has a well-understood and definite meaning in the art. As noted above, the ’637 Patent describes the materials for which the coefficient of friction is being measured, the environment within which the coefficient of friction is measured, and the value of the coefficient of friction. *See* the ’637 Patent Figs. 3, 4, 5, 8, 9, 10, & 12; cols. 2: 26-27; 3:39-43; 4:42 & 45-46; 5:42-48; 6:24-31; 7:1-11 & 56-59; 8:51-67; 9:55-65; 10:67 - 11:6. This discussion makes it clear that “coefficient of friction” in the ’637 Patent is definite and well-understood ordinary meaning to a person of ordinary skill in the art.

The extrinsic evidence cited above for “coefficient of 0.04 or less” also demonstrates that “coefficient of friction” is definite, well-understood in the art, and not irresolvably ambiguous. *See Bancorp Serv’s*, 359 F.3d at 1371; *see* Sandstrom (**Exhibit H**); Dow Corning (**Exhibit I**); 18 ASM Handbook at 5 (**Exhibit J**); ASTM D 2714-88 STANDARD (**Exhibit K**); V. Durga N. Rao, et al., Influence of Surface Characteristics (**Exhibit L**); V.D. N. Rao et al. Engine Studies of Solid Film Lubricant Coated Pistons (**Exhibit M**); Stephen H. Hill, et al. Bench Wear Testing (**Exhibit N**). This extrinsic evidence shows that the claim term “coefficient of friction” is clearly defined and well known and understood to one of ordinary skill in the art. As such, there is no basis to conclude that this term is indefinite.

4. “deposable” – the ’637 Patent (Claims 1, 7, 13, 20)

NISTAC contends that there is no construction needed for the term “deposable”, as it is used throughout the ’637 Patent in its ordinary and common manner. Nothing in the intrinsic evidence deviates from this meaning. For example, the ’637 Patent describes one

embodiment of the invention as “a liquid or semi-liquid composition of matter that can be readily deposited at low temperatures”. The ’637 Patent 4:39-51. It also discusses how “[t]he medium can also be a suspending agent such as water; the water will advantageously contain a wetting and a surfactant to assure a smooth continuous bubble-free coating, when depositing the composition.” *Id.* 5:9-13; *see also id.* 12:51-52. These excerpts from the ’637 Patent demonstrate that “deposable” should be given its ordinary meaning.

In the alternative and in light of the intrinsic evidence, NISTAC contends that “deposable” should be defined as “capable of being deposited.” Such a definition will conform to the intrinsic evidence without improperly adding limitations to the claims, unlike Defendants’ proposed definition—“able to be applied to a surface *in its present form*”.

5. “deposited coating” - the ’637 Patent (Claim 3)

NISTAC contends that the term “deposited coating” is definite. In addition to the fact that this term is comprised of simple, non-specialized words, all of the intrinsic evidence demonstrates a clear and definite meaning for “deposited coating.” For example, the ’637 Patent describes one embodiment of the invention as a composition “that can be readily deposited” and goes on to describe the components by percent weight “of the deposited coating.” ’637 Patent 4:39-5:5. The specification also describes the use of additives “to assure a smooth continuous bubble-free coating” and use of a resin that adheres at high temperatures. *Id.* 5:9-13 & 12:51-55. These discussions make it clear that “deposited coating” in the ’637 Patent is definite and well-understood ordinary meaning to a person of ordinary skill in the art.

6. **“evaporative medium for carrying said mixture during deposition” – the ’637 Patent (Claims 1, 7, 20)**

NISTAC contends that there is no construction needed for the phrase **“evaporative medium for carrying said mixture during deposition”**, as it is used throughout the **’637 Patent in its ordinary and common manner**. Nothing in the intrinsic evidence suggests that this phrase has a meaning other than its common and ordinary meaning. For example, the **’637 Patent** discusses the use of the evaporative medium to carry the mixture while it is being deposited, different methods of depositing the mixture, and provides examples of evaporative mediums that can be used. **’637 Patent 2:31-32, 5:6-30**. Nothing about these uses of the phrase **“evaporative medium for carrying said mixture during deposition”** suggests that it should have any special or non-ordinary definition.

In the alternative and in light of the intrinsic evidence, NISTAC contends that the phrase “evaporative medium for carrying said mixture during deposition” should be defined as “a substance that is capable of being evaporated and can carry a mixture during deposition.” Such a definition will conform to the intrinsic evidence without improperly adding limitations to the claims.

7. **“polymerizable” / “polymerization” / “polymerizes” – the ’637 Patent (Claims 3, 7, 20)**

NISTAC contends that there no construction is needed for the terms **“polymerizable,” “polymerization,” or “polymerizes”** as they are used throughout the **’637 Patent in their ordinary and common manner**. Upon review of relevant technical dictionaries in light of the **’637 Patent**, one can see that these terms have common, understood meanings within the art. The technical dictionaries define “polymer” as a “[s]ubstance made of giant molecules formed by the union of simple molecules (monomers)” or

“[a] macromolecule formed by the chemical union of 5 or more identical combining units called monomers.” McGraw-Hill Dictionary at 690 (**Exhibit F**); The Condensed Chemical Dictionary at 834-835 (**Exhibit G**). These extrinsic sources also define “polymerization” as “[t]he chemical bonding of two or more monomers to produce a polymer” and “[a] chemical reaction, usually carried out with a catalyst, heat or light, and often under high pressure, in which a large number of relatively simple molecules combine to form a chain-like macromolecule.” McGraw-Hill Dictionary at 690 (**Exhibit F**); The Condensed Chemical Dictionary at 834-835 (**Exhibit G**). As all of these terms follow from the word “polymer” as a form of the common term “polymer,” they would be readily understood by one of ordinary skill in the art. These extrinsic sources demonstrate that these phrases have ordinary and common meanings within the art, and that no construction is necessary.

In the alternative, NISTAC contends that the terms **“polymerizable,” “polymerization,” or “polymerizes”** should be defined as **“capable of being reacted to form a long molecular chain or macromolecule,”** the **“process of reacting a chemical to form a long molecular chain or macromolecule,”** and **“reacting a chemical to form a long molecular chain or macromolecule,”** respectively. Such definitions would conform these terms to their ordinary meaning as demonstrated by the technical dictionaries. NISTAC’s alternative definition would also avoid adding limitations to the terms as Defendants’ do with the addition of a “hardening” requirement for these terms. *See* Parties Joint Proposed Claim Construction Chart (**Exhibit D**).

8. **“polymerizing agents” – the ’637 Patent (Claim 20)**

No construction is needed for the term “polymerizing agents” as it is used throughout the ’637 Patent in its ordinary and common manner. As noted above, the

technical dictionaries contain definitions for “polymer” and “polymerization”. McGraw-Hill Dictionary at 690 (**Exhibit F**); The Condensed Chemical Dictionary at 834-835 (**Exhibit G**). As this term plainly refers to an agent that polymerizes compounds, it has an ordinary and common meaning in the art that should not be disturbed.

9. “provide a coefficient of friction” – the ’637 Patent (Claims 1, 7, 20)

Similar to the above terms “coefficient of 0.04 or less” and “coefficient of friction”, NISTAC contends that the phrase “provide a coefficient of friction” is definite. All of the intrinsic evidence demonstrates that “provide a coefficient of friction” has a well-understood and definite meaning in the art. As noted above, the ’637 Patent describes how the materials for which the coefficient of friction is being measured, the environment within which the coefficient of friction is measured, and the value of the coefficient of friction. *See* the ’637 Patent Figs. 3, 4, 5, 8, 9, 10, & 12; cols. 2: 26-27; 3:39-43; 4:42 & 45-46; 5:42-48; 6:24-31; 7:1-11 & 56-59; 8:51-67; 9:55-65; 10:67 - 11:6. This discussion makes it clear that “coefficient of friction” in the ’637 Patent is definite and well-understood ordinary meaning to a person of ordinary skill in the art. Analysis of the same extrinsic evidence as cited above for “coefficient of 0.04 or less” and “coefficient of friction”, demonstrates that “coefficient of friction” has an ordinary and common meaning within the art. *See* Sandstrom (**Exhibit H**); Dow Corning (**Exhibit I**); 18 ASM Handbook at 5 (**Exhibit J**); ASTM D 2714-88 STANDARD (**Exhibit K**); V. Durga N. Rao, et al., Influence of Surface Characteristics (**Exhibit L**); V.D. N. Rao et al. Engine Studies of Solid Film Lubricant Coated Pistons (**Exhibit M**); Stephen H. Hill, et al. Bench Wear Testing (**Exhibit N**). There is nothing about the addition of the phrase “provide a” that causes the phrase “coefficient of friction” to become hopelessly ambiguous. *Bancorp Serv’s*, 359 F.3d at 1371.

10. **“ratio” – the ’637 Patent (Claims 1, 6, 7, 19)**

No construction is needed for the term “ratio” as it is used throughout the ’637 Patent in its ordinary and common manner. The term “ratio” is commonly used in daily life in the same manner as it is used in the ’637 Patent. Further, the ’637 Patent contains no reason to deviate from this ordinary meaning of this term, and it needs no construction. More importantly, however, there is no reason to add a limitation such as “by weight” to this claim when doing so clearly violates a basic cannon of claim construction.

11. **“solid lubricant crystals” – the ’637 Patent (Claims 1, 7, 13, 20)**

NISTAC contends that the phrase “solid lubricant crystals” should be defined as “crystals with lubricating properties and in solid form with at least two crystals chosen from the group of graphite, boron nitride (BN), and molybdenum disulfide (MoS₂), regardless of the existence of other crystals with lubricating properties.” The intrinsic record supports this construction as it states that the composition of the patent invention contains “(a) a mixture of (i) solid lubricant crystals that can provide a coefficient of friction of 0.06 or less, at least two of which are selected from the group of graphite, MoS₂, and BN.” ’637 Patent at 2:25-28; *see also id.* at 4:45-48. In keeping with the law governing claim construction, NISTAC’s proposed definition is exactly supported by the intrinsic evidence. It provides the full breadth of the claim that is consistent with the specification and does not import additional limitations into this phrase.

12. **“asperities” – the ’919 Patent (Claims 2, 9, 10, 12) and ’955 Patent (Claims 10, 13, 15, 18)**

NISTAC contends that no construction is needed for the term “asperities” as it is used throughout the ’955 and ’919 Patents in its ordinary and common manner. As

discussed at the Markman tutorial, “asperities” are well understood in the art and form the basis for understanding friction. As defined in the relevant handbook from the time when the invention was created, “asperities” are “small-scale irregularities on a surface” or “[m]inute imperfections on a seal face or surface of a mating ring that are the result of normal surface finishing processes”. 18 ASM Handbook 3 (Peter J. Blau, et al., eds. 1992). The same source defines an “asperity” as “a protuberance in the small-scale topographical irregularities of a solid surface.” *Id.*; see also V. Durga N. Rao, et al., Influence of Surface Characteristics and Oil Viscosity on Friction Behavior of Rubbing Surfaces in Reciprocating Engines, Paper No. 98-ICE-131, ICE-Vol. 31-2, at 24 & Fig. 4 ASME (1998). From this extrinsic evidence it is clear that the term “asperities” has an ordinary and common meaning in the art.

Alternatively, NISTAC contends that “asperities” should be defined as “small irregularities, imperfections or roughness.” Such a definition conforms to the extrinsic evidence and avoids the addition of unnecessary limitations such as “formed by surface roughening” as Defendants have proposed.

13. “at least at regions of piston slap” – the ’955 Patent (Claim 18)

NISTAC contends that no construction is needed for the phrase “at least at regions of piston slap” as it is used throughout the ’955 and ’919 Patents in its ordinary and common manner. As discussed during the Markman tutorial, this term is well understood of one of ordinary skill in the art and as such needs no construction. For example, the Society of Automotive Engineers describes slap noise as “[n]oise caused by impact of the skirt with the cylinder bore due to secondary motion.” SAE INTERNATIONAL SURFACE VEHICLE STANDARD J2612 MAY2010 ¶ 3.73 (2010)(**Exhibit O**). Thus, one of ordinary skill understands that piston slap is the impact of the skirt against the bore wall and that “at least at regions of piston slap”

would be the regions where such contact occurs. There is simply no basis in the '955 and '919 Patents for altering that common and ordinary meaning.

14. “depth of asperities” – the '955 Patent (Claim 18)

NISTAC contends that no construction is needed for the term “depth of asperities” as it is used in its ordinary and common manner. As noted above, no construction is necessary for the related term “asperities” because it has an ordinary and common meaning in the art. *See* 18 ASM Handbook 3 (**Exhibit J**); V. Durga N. Rao, et al., Influence of Surface Characteristics (**Exhibit L**). From these sources it is clear that term “asperities” simply refers to small irregularities or imperfections, and hence, the claim term, “depth of the asperities,” likewise refers to depth of these irregularities and imperfections. There is no need or reason to import additional limitations, such as measuring only “from the surface of the lands”, into this otherwise straightforward and ordinary term.

15. “lands” – the '919 Patents (Claims 2, 6, 9) and '955 Patent (Claims 4, 5, 10, 12, 16, 18, 19, 22)

NISTAC contends that no construction is needed for the term “lands” as it is used in its ordinary and common manner. The term land is well understood such that the Society of Automotive Engineers has defined lands as “[t]he parts of the piston that are above and below the ring groove. The width of these ring lands affects inter-ring volume. The lands are typically called: top land, second land, third land, and so on.” SAE INTERNATIONAL SURFACE VEHICLE STANDARD, ¶ 3.58 (2010) (**Exhibit O**). In light of this, NISTAC contends that this claim term needs no construction and would as such be readily understood by a person of ordinary skill in the art.

In the alternative, NISTAC contends that “lands” should be defined as “the parts of the piston that are above and below the ring groove.” This definition is taken directly from the above-cited technical vehicle standard.

16. “low-friction” / “providing a low friction piston” – the ’919 Patent (Claims 1, 2, 3, 9) and ’955 Patent (Claims 1, 10, 18)

Contrary to Defendants’ allegations, these terms are definite. The intrinsic evidence demonstrates that “low friction” and “providing a low friction piston” have definite and well-understood meanings. At several places the ’955 Patent discusses what a low friction piston is and how one can be constructed. For example, the ’955 Patent specification describes a method for making a low friction piston and it describes the features of such a piston. *See* ’955 Patent at 2:1-3:2. The ’955 Patent further describes how coating a piston skirt with a solid film lubricant can achieve low-friction characteristics. *Id.* at 4:3-6 & 5:21-27. With this information, one of ordinary skill in the art would know and understand what these claim terms mean.

The extrinsic evidence also demonstrates that these terms have a well-understood meaning within the art. As noted above when discussing “coefficient of 0.04 or less”, product manufactures simply state that their coatings provide low friction or specify the coefficient of friction. *See* Sandstrom (**Exhibit H**); Dow Corning (**Exhibit I**). Additionally industry standard tests and handbooks make clear that one of ordinary skill in the art would understand what friction is and how to measure it. *See* ASTM D 2714-88 STANDARD TEST METHOD (**Exhibit K**); 18 ASM Handbook at 5 (**Exhibit J**). Finally, technical papers including ones written by an inventor on the ’955 and ’919 Patents demonstrate that persons of ordinary skill in the art understand what “low friction” and “friction” mean. V. Durga N. Rao, et al., Influence of Surface Characteristics (**Exhibit L**); V.D. N. Rao, et al. Engine Studies of Solid Film Lubricant

Coated Pistons (Exhibit M); Stephen H. Hill et al. Bench Wear Testing (Exhibit N). There is nothing about the addition of the words “providing a” or “piston” that cause these phrases to become hopelessly ambiguous. Therefore, these claim terms cannot be indefinite.

17. “microasperities” – the ’955 Patent (Claim 18)

Similar to “asperities” above, NISTAC contends that no construction necessary for “microasperities.” As discussed above, “asperities” has a common and ordinary meaning that should be applied. See 18 ASM Handbook 3 (Peter J. Blau et al. eds. 1992); V. Durga N. Rao et al., Influence of Surface Characteristics and Oil Viscosity on Friction Behavior of Rubbing Surfaces in Reciprocating Engines, Paper No. 98-ICE-131, ICE-Vol. 31-2, 1998 Fall Technical Conference, ASME (1998). As this term simply includes the prefix “micro” with the term “asperities,” both components of the term “microasperities” should be given their plain and ordinary meaning.

Alternately, NISTAC proposes that “microasperities” should be construed as “microscopic irregularities, imperfections or roughness.” Such a definition comports with the extrinsic evidence and defines “microasperities” as what they are—asperities just on a microscopic scale.

18. “predetermined pattern” - ’919 Patent (Claims 2, 9) and ’955 Patent (Claims 9, 10, 18, 22)

NISTAC contends that there is no construction needed for the phrase “predetermined pattern” because it is used in the ’919 Patent and ’955 Patent in its ordinary and common manner. Nothing in the intrinsic evidence suggests this phrase has a meaning other than its common and ordinary meaning. The inventors *did not* act as their own lexicographers by attributing a special or unique meaning to this phrase. The specification and

claims consistently use this phrase in a way that does not attribute any specialized, unique, or unexpected meaning to it. See '955 Patent at 2:28-29 (“introducing a predetermined pattern of asperities into said lands”), 2:51-52 (“said lands having a predetermined pattern of asperities”), 5:33-34 (“Next, a predetermined pattern of asperities 49 (having a depth 50) is introduced . . .”), 9:23-24 (Claim 9: “solid film lubricant coating has a predetermined pattern of grooves to provide for feeding of oil . . .”), 9:40 (Claim 10: “introducing a predetermined pattern of asperities . . .”), 10:22-23 (Claim 18: “said lands having a predetermined pattern of asperities therein, . . .”), 10:59-60 (Claim 22: “said lands has a predetermined pattern of grooves . . .”). Also, nothing about the phrase “predetermined pattern” is so technical or specialized that a juror must have those terms construed in order to understand the patent claims and apply them in deciding questions of infringement and validity. Construing the phrase “predetermined pattern” simply is not necessary.

19. “relieved” / “unrelieved” – ’919 Patent (Claim 1) and ’955 Patent (Claims 1, 4, 9, 18, 22)

NISTAC contends that there is no construction needed for the terms “relieved” and “unrelieved” because they are used in the ’919 Patent and ’955 Patent in their ordinary and common manner. The intrinsic evidence does not suggest these terms have a meaning other than their common and ordinary meaning. The inventors *did not* attribute a special or unique meaning to these terms. The specification consistently uses these terms in a way that does not attribute any specialized, unique, or unexpected meaning to them. See '955 Patent at Abstract (“the piston skirt relieved to define lands that are coated . . .”), 2:49-50 (“the side walls being relieved on the exterior surface thereof . . .”), 3:62-63 (“having a shorter and surface relieved skirt wall 40”), 4:13-19 (“FIG. 4 illustrates how the skirt wall is relieved at areas 30, 31,

32, 33 on one side of the piston. The relief may be carried out by mechanical machining to a depth 34 (see FIG. 9) of about 20-30 microns or by electrical discharge machining. The unrelieved portion of the skirt wall becomes a land or lands 35 for sliding engagement along the cylinder bore wall.”), 5:46-48 (“The undercutting may be carried out by machining, preferably to a depth of about 20-30 microns to produce lands varying in total land area of about 0.5 in² to 1.5 in².”). Also, nothing about the terms “relieved” and “unrelieved” is so technical or specialized that a juror must have those terms construed in order to understand the patent claims and apply them in deciding questions of infringement and validity. The terms “relieved” and “unrelieved” do not require construction.

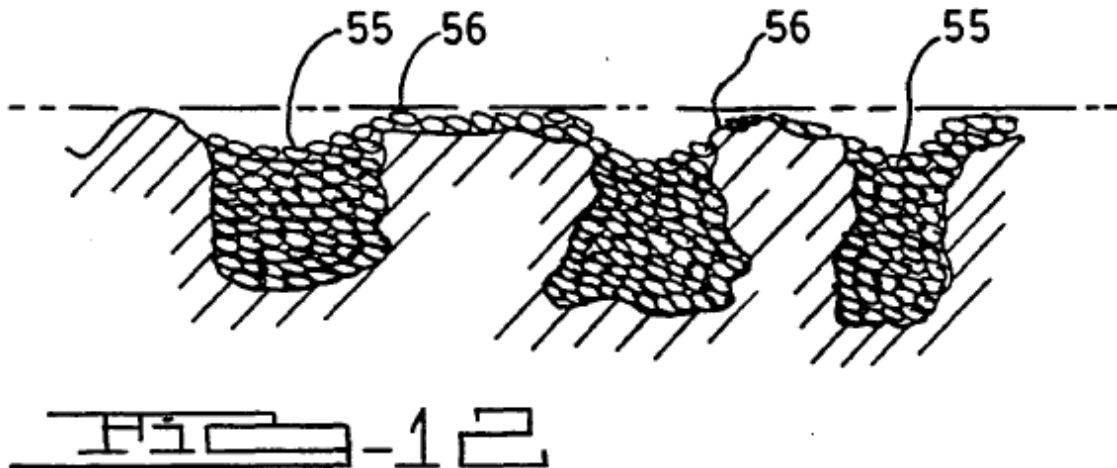
20. “reservoirs of oil” – ’955 Patent (Claim 18)

NISTAC contends that there is no construction needed for the term “reservoirs of oil” because it is used in the ’955 Patent in its ordinary and common manner. Nothing in the intrinsic evidence suggests that “reservoirs of oil” has a meaning other than its common and ordinary meaning. With respect to this term, the inventors *did not* act as their own lexicographers by attributing a special or unique meaning to “reservoirs of oil.” The specification and claims consistently use the term “reservoirs of oil” in a way that does not attribute any specialized, unique, or unexpected meaning to it. See ’955 Patent at 2:68-3:1 (“providing reservoirs of oil adjacent said retained oil films for replenishing oil . . .”); 5:15-18 (“the size and location of oil reservoirs during transient mode operation of the engine, such reservoirs being critical to the retention of the oil film . . .”); 7:34 (“by a variety of oil reservoirs”); 10:44-45 (Claim 18: “providing reservoirs of oil adjacent said retained oil films for replenishing oil . . .”). Also, nothing about the term “reservoirs of oil” is so technical or specialized that a juror must have that term construed in order to understand the patent claims

and apply them in deciding questions of infringement and validity. A construction for “reservoirs of oil” simply is not necessary.

21. “shallow pockets” – ’919 Patent (Claims 2, 9) and ’955 Patent (Claim 10)

NISTAC contends that there is no construction needed for the term “shallow pockets” because it is used throughout in the ’919 Patent and ’955 Patent in its ordinary and common manner. The intrinsic evidence does not suggest that “shallow pockets” has a meaning other than its common and ordinary meaning. The inventors *did not* attribute a specialized, unique, or unexpected meaning to “shallow pockets.” For example, Fig. 12 of the ’955 Patent shows the shallow pockets 55, which look like what one would expect a shallow pocket to look like, namely a pocket or recess in the coating that is of shallow depth. See ’955 Patent at 5:43-44 (“Finally, shallow pockets 55 are formed at the asperity mouths 56 such as by brushing or other equivalent means (see FIG. 12)”).



The specification and claims consistently use the term “shallow pockets” in a way that does not attribute any specialized meaning to it. See ’955 Patent at 2:35-36 (“(e) forming shallow pockets at the mouth of said asperities”), 5:43-45 (“Finally, shallow pockets 55 are formed at the asperity mouths 56 such as by brushing or other equivalent means (see FIG. 12)”), 9:49-50 (Claim 10: “forming shallow pockets at the mouth of said asperities”).

Also, the term “shallow pockets” is not technical or specialized such that a juror needs to have that term construed in order to understand the patent claims and apply them in deciding questions of infringement and validity. A construction for “shallow pockets” simply is not necessary. The extrinsic evidence supports NISTAC’s view that “shallow pockets” is being used in the patents according to its plain and ordinary meaning and does not require construction. For example, the SAE International Surface Vehicle Standard J2612 May 2010 ¶ 3.80 (2010) states in relevant part as to “Valve Pockets”: “A machined or cast recess on the piston crown to provide clearance to the open intake or exhaust valve.” (**Exhibit O**).

The Defendants’ proposed definition is “dimples in the coating.” However, this construction is not proper because although “shallow pockets” *can* consist of dimples in the coating in some instances, “shallow pockets” are *not required in all instances* to be dimples in the coating. The Defendants’ definition would *require* that “shallow pockets” be only dimples. The inventors did not require “shallow pockets” to be dimples. For example, *compare* independent Claim 10 of the ’955 Patent at 9:49-50, which states, “forming **shallow pockets** at the mouth of said asperities” *with* dependent Claim 15 at 9:65-68, which states, “pockets in said solid film lubricant at the mouth of said asperities are created by brushing to remove and **dimple** the solid film lubricant at such mouths.” (emphasis added). If the inventors had intended for shallow pockets to be dimples *in all instances*, then it stands to reason that in Claim 10, the

inventors would have used the more narrowed term “dimpled pockets” instead of the broader term “shallow pockets.” The fact that the inventors intended for the pockets to be dimpled only in Claim 15 and specifically chose the word “dimple” (instead of “shallow”) is a clear sign that the inventors saw a distinction between a “shallow pocket” and a pocket that is dimpled. The Defendants’ proposed definition would improperly eliminate this important distinction.

22. “solid film lubricant coating” – ’919 Patent (Claims 1, 2, 3, 7, 8, 11) and ’955 Patent (Claims 1, 6, 7, 8, 9, 14, 18, 22)

NISTAC contends that the proper construction for “solid film lubricant coating” is **“a coating that has lubricating properties and in solid film form with at least two crystals chosen from the group of graphite, boron nitride (BN), and molybdenum disulfide (MoS₂), regardless of the existence of other crystals with lubricating properties.”** NISTAC’s construction is most consistent with the inventors’ intended scope of that term as reflected in the specification and the claims. For example, in the Summary of the Invention, which is a critical portion of the specification, the inventors described a solid film lubricant coating on the exterior of a low-friction piston as consisting of graphite, molybdenum disulfide, and boron nitride. See ’955 Patent at 2:11-14 (“. . . having a **solid film lubricant coating** on its exterior thereof **consisting of graphite, molybdenum disulfide, boron nitride**, and epoxy resin . . .”) (emphasis added). Elsewhere in the ’955 Patent, the inventors described the solid film lubricant coating in terms of having graphite, molybdenum disulfide, or boron nitride. See ’955 Patent at 4:32-37 (“The solid film lubricant (as shown in FIG. 8) is deposited only onto such lands as the coating 44 in a thickness 47 of 10-35 microns. The coating may be applied by a conventional roller/silk screen or ink pad type application process. The coating consists of solid lubricants 45 (**graphite, MOS₂, BN**) and a support resin 46.”) (emphasis added).

In contrast, the Defendants' proposed definition is "plain and ordinary meaning." However, as shown above in the excerpted portions of the '955 Patent, the inventors specifically and consistently defined, as their own lexicographers, what must be part of the solid film lubricant coating in the context of the patent, which means the inclusion of at least two crystals chosen from the group of graphite, molybdenum disulfide, and boron nitride. The Defendants' "plain and ordinary meaning" definition does not hew to the inventors' intended scope of that phrase; if it did, then the Defendants would have agreed to NISTAC's proposed definition. The Defendants' position would make "solid film lubricant coating" have a broader scope within the context of the patents than what was intended by the inventors. NISTAC's construction is proper because it remains true to the scope of that phrase as intended by the inventors as reflected in the specification and the claims.

23. "solid film lubricant crystals" – '919 Patent (Claims 3, 9) and '955 Patent (Claims 9, 10)

NISTAC contends that the proper construction for "solid film lubricant crystals" is "crystals with lubricating properties and in solid form with at least two crystals chosen from the group of graphite, boron nitride (BN), and molybdenum disulfide (MoS₂), regardless of the existence of other crystals with lubricating properties." This construction is proper because it is most consistent with the inventors' intended scope of that term as reflected in the specification and the claims. For example, in the Summary of the Invention, which is a critical portion of the specification, the inventors described a solid film lubricant coating on the exterior of a low-friction piston as consisting of graphite, molybdenum disulfide, and boron nitride. See '955 Patent at 2:11-14 ("... having a solid film lubricant coating on its exterior thereof **consisting of graphite, molybdenum disulfide, boron nitride**, and epoxy resin . . .")

(emphasis added). Elsewhere in the '955 Patent, the inventors described the solid film lubricant coating in terms of having graphite, molybdenum disulfide, or boron nitride. See '955 Patent at 4:32-37 ("The solid film lubricant (as shown in FIG. 8) is deposited only onto such lands as the coating 44 in a thickness 47 of 10-35 microns. The coating may be applied by a conventional roller/silk screen or ink pad type application process. The coating consists of solid lubricants 45 (**graphite, MOS2, BN**) and a support resin 46.") (emphasis added).

In contrast, the Defendants' proposed definition is "crystals of two or more solid lubricants." Their definition is too general and overly broad because the specification from the '955 Patent, as NISTAC cited above, shows that "solid lubricants" was intended by the inventors, as their own lexicographers, to have graphite, molybdenum disulfide, or boron nitride. The Defendants' proposal impermissibly expands the meaning of "solid film lubricant crystals" to include crystals of *any* two or more solid lubricants, regardless of whether any of the crystals of solid lubricants are actually made of graphite, molybdenum disulfide, or boron nitride. A proper definition should require at least two crystals chosen from the group of graphite, molybdenum disulfide, and boron nitride.

Honda's proposed definition is "crystals of graphite, molybdenum disulfide, and optionally boron nitride," but it is also improper. Honda's definition is too restrictive in that it unreasonably requires the crystals of solid lubricants to be made of at least graphite *and* molybdenum disulfide in all instances. Honda's definition excludes the possibility that the solid lubricants can consist of other combinations of the three, such as a graphite + boron nitride combination or a molybdenum disulfide + boron nitride combination. Neither the claims nor the specification supports imposing such arbitrary restrictions. NISTAC's construction is proper because it does not unreasonably exclude certain combinations of graphite, molybdenum

disulfide, and boron nitride, while remaining true to the scope of that phrase as intended by the inventors as reflected in the specification and the claims.

24. “solid lubricants” – ’919 Patent (Claims 2, 4, 9) and ’955 Patent (Claims 2, 18)

NISTAC contends that no construction is needed for the phrase “solid lubricants,” as it is used in the ’919 Patent and ’955 Patent in its ordinary and common manner as understood by a person of ordinary skill in the art in the context of the patents. In the alternative, NISTAC contends that “solid lubricants” should be defined as “lubricants in solid form with at least two crystals chosen from the group of graphite, boron nitride (BN), and molybdenum disulfide (MoS₂), regardless of the existence of other crystals with lubricating properties.” NISTAC’s proposed alternative definition conforms to the specification. For example, the ’955 Patent describes “solid lubricants” in terms of having graphite, molybdenum disulfide, or boron nitride. See ’955 Patent at 4:36-37 (“The coating consists of **solid lubricants 45 (graphite, MoS₂, BN)** and a support resin 46.”) (emphasis added); see also ’919 Patent at 4:37-38 (same).

In contrast, the Defendants’ proposed definition is “two or more solid lubricants.” Their definition is too general and overly broad because the specification from the ’955 Patent, as NISTAC cited above, shows that “solid lubricants” was intended by the inventors, as their own lexicographers, to have graphite, molybdenum disulfide, or boron nitride. The Defendants’ proposal impermissibly expands the meaning of “solid lubricants” to include *any* two or more solid lubricants, regardless of whether any of the solid lubricants are actually made of graphite, molybdenum disulfide, or boron nitride. If the phrase “solid lubricants” must be defined, a

proper definition should require at least two crystals chosen from the group of graphite, molybdenum disulfide, and boron nitride.

Honda's proposed definition is "graphite, molybdenum disulfide, and optionally boron nitride," but it fares no better. Honda's definition is too restrictive in that it impermissibly requires the solid lubricants to be made of at least graphite *and* molybdenum disulfide in all instances. Honda's definition excludes the possibility that the solid lubricants can consist of other combinations of the three, such as a graphite + boron nitride combination or a molybdenum disulfide + boron nitride combination. Neither the claims nor the specification support imposing such arbitrary restrictions. NISTAC's alternative construction is proper because it does not unreasonably exclude certain combinations of graphite, molybdenum disulfide, and boron nitride, while remaining true to the scope of that phrase as intended by the inventors as reflected in the specification and the claims.

IV. CONCLUSION

For the forgoing reasons, NISTAC respectfully requests that the Court adopt each of its proposed constructions of the disputed terms and phrases in the NISTAC Patents.

Respectfully submitted,

/s/ DEREK GILLILAND

DEREK GILLILAND

STATE BAR NO. 24007239

NIX PATTERSON & ROACH, L.L.P.

205 LINDA DRIVE

DAINGERFIELD, TEXAS 75638

903.645.7333 (telephone)

903.645.5389

dgilliland@nixlawfirm.com

ANTHONY BRUSTER

TEXAS STATE BAR NO. 24036280

ED CHIN

TEXAS STATE BAR NO. 50511688

NIX PATTERSON & ROACH, L.L.P.

5215 N. O'Connor Blvd., Suite 1900

Irving, Texas 75039

972.831.1188 (telephone)

972.444.0716 (facsimile)

akbruster@nixlawfirm.com

edchin@me.com

RODGER D. YOUNG (P22652)

JAYE QUADROZZI (P71646)

JASON KILLIPS (P67883)

YOUNG & SUSSER, P.C.

Counsel for Plaintiff

26200 American Drive, Ste. 305

Southfield, MI 48034

248.353.8620 (telephone)

248.353.6559 (facsimile)

efiling@youngpc.com

ATTORNEYS FOR NISTAC

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has been delivered to all counsel of record via the Court's CM/ECF system on this 4th day of November, 2011.

/s/ DEREK GILLILAND

Derek Gilliland